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Data Curation and the Arts: How Do Musicians Curate Their Data?

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Abstract

Professional musicians were surveyed to determine how personal, amateur recordings of performances are shared with students and colleagues. Sharing files on social media is common, with Facebook, YouTube, and Vimeo used most frequently. Although these are popular social media platforms, they do not have enhanced format support and robust metadata. Additionally, licensing terms for each platform differ, and may be not in the best interest of the musician. Although recordings are not traditionally considered data, data curation principles can be applied to these types of files, and the library is positioned to become an active participant in this process.

Introduction

Although data and data curation are well-understood when applied to scientific research, data and data curation in the arts fields are not often discussed. However, by expanding the definition of data to include audio and visual data, we can start to apply the principles of data curation to these disciplines. Scientific research is generally broken down into quantitative research, which tests the relationships among variables, and qualitative research, which attempts to understand human behavior through the study of evidence. Quantitative data is in the form of numbers and variables. Qualitative datasets are generally textual in nature. In the humanities, research is "the study of how people process and document the human experience,"[1] and researchers in this field analyze texts to draw conclusions. The data used in this field are these texts. Within academic communities there are emerging discussions

of other types of research based in the arts: artistic research[2] and performative research.[3] Performative research can be practice-based research, practice-led research, or practice as research.[4] Practice-led research and practice as research are often grouped together and called practice research. This article will examine performing musicians as music practice researchers, the data they produce, and how these musicians/researchers curate their data.

In practice based research disciplines, including the performing arts, a performance is research output as well as an object for research. Due to the ephemeral nature of a performance, a video or audio recording of the performance is often the best surrogate for further research and study for performance focused scholars. These scholars study recordings of performances to analyze, draw conclusions, and test variables, similar to humanities scholars studying texts and science researchers analyzing numeric data. Although performing artists do not refer to recordings as "data," most recordings today are made using digital formats which facilitate their use as data through playback, timestamping, and annotation features common among modern media applications.

Applying data curation principles to recordings, the authors at the University of New Mexico asked themselves, "how do performing musicians curate their data?" To answer this question, we piloted a survey by asking performing musicians about the use and care of personal recordings of performances.

Literature review

The idea of performative research is explored by Brad Haseman as a distinct approach from qualitative or quantitative research. Haseman argues that "the principal distinction between this third category and the qualitative and quantitative categories is found in the way it chooses to express its findings. In this case, while findings are expressed in non-numeric data they present as symbolic forms other than in the words of discursive text."[5] These symbolic forms can be music and sound, still and/or

moving images, and live action or digital code. For a performing musician/researcher, the symbolic form of research output is often a performance of a piece of music, and this performance may be captured as a video or audio recording, though neither can capture the totality of a performance. This recording is often studied by the musician for self-reflection, or by other musicians to study technical aspects such as bowing or breathing, or interpretive aspects such as phrasing or dynamics.

However, traditional definitions of research output (e.g. journal article, monograph) do not recognize these type of performative presentations as equivalent to scholarly texts, even though they both are the results and output of different types of scholarship. According to Blom et al., "Artistic practice as research... is rarely recognized as research in its own right."[6] While Blom et al. make a case for artistic output as being equivalent to written scholarly output, they also make an argument that artistic research should be seen as an entirely different type of research, "focusing instead (or perhaps as well) on a wider understanding of what constitutes knowledge."[7]

Regardless of performances and recordings being seen as equivalent to scholarly writing, or an entirely different approach to research, recordings are used as data by musicians. Previous studies[8] show that musicians and other performing artists value recordings of live performances and long term access to these recordings. However, "a gap becomes visible between practitioner's ambitions for the longevity and authenticity of their highly-valued digital objects and the likely result of their current digital preservation and curation-related decisions."[9] The identified gap is the performer's understanding of long term, active preservation, as well as data curation activities that can enhance understanding and findability of the digital objects. However, librarians with digital preservation and curation expertise are in a position to identify requirements and processes for bridging this gap. Broadly, the current emphasis on data curation in libraries should be extended to include all types of data, specifically, in this case, performing arts data.[10]

Specific to data curation, three recent studies demonstrate progress toward a definition of arts

data, specify some of the unique characteristics of arts data, and explore strategies for its management.

A broad definition of research data among the arts generally is provided by Guy et al.[11] The authors'

discussion touches on the complexity of situating arts data within established frameworks of science and

humanities research, acknowledging on the one hand that while a definition of research data among the

arts is needed to provide a framework for preservation, there is also a need among institutions of higher

education (HEI) to translate scientific concepts of research data management to artistic practice.[12]

Existing scientific definitions of research data are inadequate and fail to account for the particular

subjectivities of data as recorded and used by artists.[13] Further problems of definition include the

tendency to conflate data with other scholarly outputs,[14] an issue noted as well by Bartlett[15] and

Molloy[16]. Ultimately, the policy proposed by Guy et al. incorporates *academic* arts research through a

generalized definition of research data as "anything created, captured or collected as an output of

funded research work in its original state."[17] While on the surface this definition may appear too broad

to put into practice, potentially limiting concepts described by the authors include "iconic data"[18] and

data as markers of "organizational moments."[19] Importantly, while the definition as provided only

addresses funded research, these limiting concepts can be applied to a conceptualization of arts data

produced outside of funding agencies. Iconic data, as defined by Ryan, extends the conventional

concept of data to include not just recorded observations or other factual evidence, but representations

of factual evidence made using music, drawings, movement, etc.[20] Such representations may capture an

artist's process of meaning-making in an analogous fashion to the way in which data, as traditionally

understood, captures the evolution of other research processes. Similarly, organizational moments as

originally defined by Garret et. al are those during which an artists' intrinsic research practices "may

become externalized or translated into research outputs" such as lectures, proposals, or exhibitions.[21]

Applying these concepts to the sum of funded research output denoted in the above definition of

research data may provide guidance to artists and arts data curators seeking to more specifically identify the content and format of arts data.

Burvill and Seton's[22] insight into a definition of arts data draws a parallel between traditional modes of scholarly research and performance works as "legitimate outworkings of human enquiry and meaning-making."[23] Their assertion that performing artists take a self-conscious rather than scientific approach to documentation[24] echoes Guy et al.'s discussion of organizational moments, and illustrates the challenges posed to curation and preservation of arts data by the highly intrinsic and often idiosyncratic methodologies of performing artists.[25] Collectively, the findings of these studies suggest a valuable role for ephemera and documentary writing as key pieces of arts data.[26] [27]

In addition to these findings, these three studies explore examples of performing arts data and their unique characteristics, with Burvill and Seton providing the important observation that ethical considerations around curating arts data require the recognition of contributing artists as participants in human subjects research.[28] Bartlett notes the importance of ephemera for curation in describing how the rise of the internet and social media has produced an "increasingly mediated society,"[29] and the similarities among electronic, web ephemera and oral histories.[30] By aggregating published information and online discussions of performance events, Bartlett highlights the value of web archives as adjuncts of the performances and potential sources of crucial contextual information.[31]

Ultimately, strategies for curating performing arts data rely to some extent on capturing and making efficient use of these ephemera. While Brandt and Kim note that there are some intuitive parallels between arts and scientific data,[32] Molloy[33] [34] describes a conflation among artists of creation and publication strategies with preservation and curation.[35] A coordinated, purposeful collation of ephemera and performance documentation with performance documents themselves can serve to reinforce distinctions among creation, publication, and curation by situating documentation of

organizational moments as data points in the creative process. Examples of such strategies in practice include "dramaturgic edits" as described by Burvill and Seton,[36] and in work described by Brandt and Kim.[37]

Survey

Through interactions with performing artists, one of the authors at the University of New Mexico's University Libraries (UL) observed that musicians often record themselves in formal and informal settings, and share these recordings with students and colleagues for pedagogical and/or promotional purposes. Although the UL is committed to supporting data needs of all faculty on campus, current repository platforms do not allow for granular access controls, direct uploads by faculty, and robust support of media playback. Because of these issues and the ephemeral nature of performance, the UL has been unable to support this informal sharing among music faculty. However, this activity can be viewed as sharing data, and the library is positioning itself as an active partner with data producers across the campus. In order to understand how the library can be of value to this community of data producers, the authors surveyed performing musicians on how they share and curate their data.

A questionnaire was created by the authors and entered in the online survey system Qualtrics. The draft questionnaire was reviewed by colleagues on various aspects, including wording and understanding. After some revisions, the questionnaire was pre-tested by three people from the target population selected by one of the authors. These individuals provided more feedback which allowed us to revise it for this pilot study. The final version of the questionnaire had 26 questions in total, which included multiple-choice questions, multiple-selection questions, and open-ended questions. See Appendix 1 for the final questionnaire used in this study.

The authors were interested in the general population of professional musicians, including those employed by universities, colleges, and conservatories with music programs. To reach a large audience

of the targeted population, the Music Library Association listerv was identified to receive an email with the questionnaire link. Authors hoped that music librarians would self-identify as musicians, as well as share the survey with faculty in their music departments. In addition, the questionnaire was publicized via Facebook, and music faculty at the authors' institution were contacted directly through email. The email and the social media text included an overview of the pilot study, a link to the online questionnaire, and text inviting participants to share the link with other musicians. This convenience sampling and snowball sampling produced 62 responses. Of the 62, only 31 were completed and used for this pilot study (25 were blank and six answered only the demographic questions).

Results

Since this was a pilot study and the sample size is small, we can only provide summary statistics and are unable to run inference statistics or generalize. The following tables provide the respondents' answers in terms of absolute numbers and/or percentages. Table 1 shows the general demographics (gender and age) of the respondents. The respondents were 60% male and 40% female. As for the respondents' age, approximately 65% were between the ages of 40 and 59, with 25% under 40, and 10% 60 years of age or older.

Table 1
Gender and Age of Survey Respondents

	Count	Percentage
Gender (n=30)		
Male	18	60.0%
Female	12	40.0%
Age (n=29)		
20-29	2	6.9%
30-39	5	17.2%
40-49	10	34.5%
50-59	9	31.0%
60+	3	10.0%

Table 2 provides information about the respondents' experience as musicians, including the instrument types, years playing the instrument, and age respondents began playing their instrument. When differentiating by instrument types, woodwinds (35.5%) and strings (19.4%) are most predominant, followed by brass, vocal, conducting and computer. Also, Table 2 displays the years respondents have played their instrument (average = 31.96) with 83.4% playing their instrument between 20 and 40+ years. The table finally shows the age they began playing their instrument (average = 15.13) with almost 80% beginning before the age of 20.

Table 2
Respondents' experience as musicians

	Count	Percentage
Instrument families (n=31)		
Woodwind	11	35.5%
Strings	6	19.4%
Brass	4	12.9%
Vocal	4	12.9%
Conducting	3	9.7%
Percussion	2	6.5%
Computer	1	3.2%
Years playing instrument (n=30)		
0-9	3	10.0%
10-19	2	6.7%
20-29	5	16.7%
30-39	12	40.0%
40+	8	26.7%
Age started playing instrument (n=29)		
5-9	5	17.3%
10-19	18	62.0%
20-29	5	17.3%
30+	1	3.4%

We asked respondents how they spent their time in regards to rehearsing, teaching and performing. Table 3 provides their responses. The average time spent rehearsing was 9.18 hours per week, with over 70% rehearsing 10 hours a week or less. Of the 14 responses received from people who teach private lessons, the average time teaching per week was 11.5 hours, with a range from three to 25

hours. Respondents spend an average of 2.68 hours per week performing, with almost 60% performing

one to two hours.

Table 3
Hours per Week Spent Rehearsing, Teaching, and Performing

	Hours/week
Time spent rehearing (n=27)	
1-5	9
6-10	10
11-15	4
16-20	3
21+	1
Time spent teaching (n=14)	
1-5	2
6-10	7
11-15	2
16-20	1
21-25	2
Time spent performing (n=27)	
1-2	16
3-5	8
3	3

Note. – Respondents were asked to provide an average number of hours per week for each action.

Table 4 shows the respondents' answers to questions about recording and sharing music

performances. We asked respondents how they record their performances to better understand if the

recordings were professional or amateur recordings. Respondents were allowed to select multiple

methods. Responses indicate that that some performances (71%) were recorded by a recording

engineer and equipment provided by the venue. Additionally, 48.4% of our respondents use a laptop,

cell phone, voice recorder, etc. to record some performances. We also asked how often respondents

shared these recording with others. Options included all performances, most performances, some

performance, or no performances. Over 58% share some recordings of performances with others, while

22.6% did not share recordings.

Table 4
Recording and Sharing Performances

	Count	Percentage
How do you record your performances (n=31)*		
Recording engineer/equip – venue	22	71.0%
Recording engineer/equip- personal	1	3.2%
Self-placed professional equipment	11	35.5%
Non-professional equipment	15	48.4%
Other	3	9.7%
How often do you record your performances (n=31)		
Every	3	9.7%
Most	18	58.1%
Some	9	29.0%
None	1	3.2%
How often do you share your recorded performances (n=31)		
Every	2	6.5%
Most	4	12.9%
Some	18	58.1%
None	7	22.6%

Note. – *Respondents could select multiple methods for recording
their performances, thus percentages total more than 100%.

In order to understand how respondents are using technology to share their recordings, we

asked about the media they use to share performances. The respondents had 21 options to choose from

and were allowed to choose multiple media platforms. As Table 5 shows, physical media (CD and DVD)

were equally popular (34) as the top three social media options (34): YouTube, Facebook and Vimeo.

We did not ask if or how respondents tie their social media accounts together (e.g. hosting on YouTube

and sharing through both YouTube and Facebook). Although the survey did not ask why performers

share recordings, the authors assume that musicians are using social media to share with colleagues and

students, as well as promote themselves as artists. Also, university-related sites/services (11) were

chosen more often than personal websites (10) and music-specific sites/services (8).

Table 5
Media Currently Used for Sharing Recorded Performances

	Count
Physical media	
CD	27

	Count
DVD	7
Social media	
YouTube	18
Facebook	12
Vimeo	4
Twitter	3
Instagram	1
Snapchat	1
Music-specific sites/services	
SoundCloud	6
Apple Music	2
University-related sites/services	
Institutional repository	4
Library services	4
Website	3
Other	
Personal website	10
Non-specific	8
Dropbox	3

Note. - Respondents could select
multiple media for sharing performances

The authors also wanted to gauge the interest level among researchers in various services as potential platforms for sharing recordings. We tried to determine this by asking what platforms respondents wanted to know more about. The respondents had the same 21 options to choose from as above, and were allowed to choose multiple media platforms. Table 6 shows that respondents were most interested in learning about music-specific sites/services (18), followed by social media sites (14), and university-related sites/services (13).

Table 6
Media Respondents are Interested in Learning about for Sharing Recorded Performances

	Count
Social media	
Internet Archive	6
Vimeo	3
Instagram	2
Snapchat	2
YouTube	1
Music-specific sites/services	
Bandcamp	7

SoundCloud	6
Apple Music	2
Netlabels*	3
University-related sites/services	
Library services	8
Institutional repository	5
Other	
Personal website	1

Note. - Respondents could select multiple media options. *Netlabels is part of Internet Archive.

In addition to these questions regarding sharing of recordings, we also asked the respondents who identified as faculty at a college/university/conservatory some open-ended questions about the perceived value of sharing recordings as a scholarly activity. Although the majority of comments indicated that sharing recordings did not count as a scholarly activity at their institution, a minority reported that performance was considered a scholarly activity, and one respondent commented "sharing files is a service to the profession or is teaching, depending on the audience." Another respondent pointed out that sharing of performances could be a personal or scholarly activity, depending on the situation and intended audience.

We also asked how HEIs could better recognize scholarly activities in the performing arts. Most comments indicated that academia should put equal value on creative works compared to more traditional scholarly activities. One respondent commented that HEIs need to "get out of the mindset that only publications are valuable." Another comment addressed the need to "recognize and evaluate non-traditional scholarly output. This is likely to happen relatively organically as faculty produce films, recordings, and multi-media works. . . ." Another respondent felt that traditional systems of scholarly recognition and promotion do not value the time and energy required for creative works. Some of the comments above equate performances with scholarly publishing, while others indicate that performances should be a separate, but equal category in a tenure dossier.

Discussion

This study began as an investigation into how musicians share and curate their data, with the intention of finding ways in which the library could participate in this process through our data curation program. While the researchers' institution does not maintain a media repository, librarians at the institution do have knowledge of best practices in archiving, preservation, curation, technical infrastructure, copyright, and preservation that could be shared with faculty musicians at our institution. We believe these types of educational workshops could be held at many similar institutions.

Though the survey sample size was small for this pilot study, Tables 2 and 3 provide a picture of respondents as seasoned musicians, primarily in the classical music genre. Table 2 clearly shows the respondents as career musicians with most having started on their instrument at a young age (under 20). A large majority of respondents have played their instruments for over 20 years. Table 3 shows the respondents' professional involvement in their music career with the amount of time spent weekly rehearsing, teaching and performing.

We asked respondents about their recorded performances. As noted in Table 4, they recorded their performances using a variety of methods, with most respondents reporting both professional and amateur recordings. Each method (as well as the geographic location of the recording) has implications regarding copyright, performance rights, playback quality, and long term preservation options. A full discussion of copyright is not in the scope of this article, but more information can be found on the Music Library Association's "Copyright for Music Librarians" website.[38] With many parties invested in copyright and performance rights, some performers may not fully understand all of the rights holders invested in a recording. They may mistakenly believe that they have full copyright and ownership of a recording, and, therefore, permission to upload that recording to an online platform. Music librarians are often aware of copyright issues for recordings, and, as such, are well positioned to offer workshops

about copyright to performers in order to explain rights holders and the issues regarding sharing recordings online.

In addition to copyright, performers may be hesitant to share recordings due to economic concerns. Many performing artists rely on their recordings for income, and should fully understand the terms of use when uploading a file to a social media platform in order to avoid commercial reuse that is not authorized by the artist. Additionally, artists who own the copyright to their recordings can give creative commons licenses to the recordings to encourage authorized reuse. However, it's important to check the terms of use for each site to fully understand rights of the content owner and the license given to the site regarding reuse of content. For example, YouTube[39] only lets account owners in "good standing" apply Creative Commons licenses to their work. See Appendix 2 for a sample of copyright or licensing terms of use for several major platforms. Of the four platforms cited (YouTube, Facebook,[40] Internet Archive,[41] and SoundCloud[42]), SoundCloud and the Internet Archive do not claim any rights to content uploaded to their site. The Internet Archive's policy of requiring Creative Commons licenses makes the reuse conditions clearest of these four platforms. YouTube and Facebook claim licenses that allow these services to reuse uploaded content.

Although the survey did not address the intended purpose of recording and sharing performances, the high use of social media (Table 5) indicates a focus on promotion of the artist instead of archiving the performance. Social media, while useful for sharing and promotion, is not especially geared toward preservation or archiving. For example, YouTube often removes video for copyright violations (real or perceived) without warning the account holder that uploaded the media. Additionally, metadata associated with content on the major social media platforms is sparse, and it may be difficult to find a specific media file without a direct link. If archiving is a desired outcome, content owners should check more robust platforms, such as the Internet Archive, for features such as owner-controlled content and robust metadata and searching.

While dedicated music sharing platforms exist which facilitate the description and curation of multimedia, including, for example, SoundCloud and the Internet Archive, for the most part the respondents demonstrate little use of these services. Instead, the predominant mode of sharing recordings is via exchange of physical media such as CDs and DVDs, with some corresponding use of popular and easy to use web services including YouTube, Facebook, and personal websites. Use of popular social media platforms supports artists' primary interests in publicizing and marketing their output, but has implications for longer term curation and preservation. Molloy[43] [44] also discusses these issues. Specifically, discoverability of and sustainable access to uploaded content are constrained by limited metadata capabilities and the changing long term priorities of platform providers. Access and use controls present issues as well. Aside from licensing issues as described above, content uploaded to social media sites may be transferred to or stored in locations that are not under the jurisdiction of an artist's national copyright laws.[45]

By contrast, respondents also indicated interest in library supported repositories as well as the music-specific Bandcamp[46] and general purpose, open access Internet Archive (Table 6). Both Bandcamp and the Internet Archive support upload and distribution of high bitrate and uncompressed audio formats. Uploaded files are transcoded on ingest into multiple lossless as well as lossy formats which become available for users to download depending on their preference. These enhanced format capabilities are further supplemented by descriptive metadata features that allow artists to describe and provide unique artwork for individual tracks as well as multi-song releases and compilations. Taken together, these features support curation and discovery by enabling more robust administration and description of content than is possible through social media upload features. Both platforms also support sharing of uploaded content by generating embed links and buttons for social media applications including Facebook, Twitter,[47] tumblr,[48] and others. With regard to library capabilities, more respondents were interested in library services generally than in institutional repositories. While IRs

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offer some capabilities to support musicians as described below, it is unknown whether the interest in

non-specific library services refers to publishing capabilities or supporting discovery and accessibility to

already published content. Which services represent the most value to faculty artists is an area for

further research.

Although the researchers did not ask respondents why they posted recordings on online

platforms, we can surmise based on the popularity of social media platforms that many respondents use

social media to promote themselves as artists. However, performers should evaluate each available

platform for preservation, archiving, and copyright issues (discussed above) to determine the best fit for

their recordings. It is possible to upload to one platform and cross link or embed that recording in

another platform. In this scenario, the secondary platform does not control the media file or use of it.

During the past decade, librarians have encouraged the use of open access institutional

repositories as a platform for dissemination of faculty publications.[49] However, faculty publications have

often been defined as text-based research outputs, and have excluded media files. As shown in Table 6,

24% of our respondents wanted to know more about their local institutional repository. The authors'

institution currently uses a DSpace-based institutional repository, with a planned migration to BePress'

Digital Commons throughout 2016. Although DSpace supports any file type, it does not stream files,

which often excludes it from use by our performing faculty. Additionally, we have tried to embed

YouTube videos into our institutional repository, but were unable to do so when a YouTube video

includes copyrighted music. Due to many complex copyright restrictions on music and other performing

arts recordings, these formats require finely tuned access restrictions and often cannot be shared

openly, even if the performer is willing to share the recording. Due to the lack of access controls of most

institutional repository software, as well as the lack of support for playback of media files, music

librarians should examine other platforms that are more familiar with copyright issues, access

restrictions, and infrastructure to support these media files. Platforms like these already exist in the

music library community through Alexander Street Press and Naxos, and Alexander Street Press is starting to offer upload functionality through the Open Video Project. It is possible that services like these can take on the role of an institutional repository for media files through negotiations between university libraries and vendors through a robust understanding of preservation, archiving, and copyright policies.

Finally, a survey respondent made an interesting comment that any recording published on a public platform should be findable in the institution's library catalog, as well as through the standard search engines. Although we could create catalog records for resources held on publicly available platforms (e.g. YouTube, SoundCloud), the unstable nature of these platforms and individual resources on the platforms preclude easy cataloging with stable links. At this time, there is no ability to bring together faculty video and audio streams held in disparate locations across the internet.

Conclusion

Sharing of audio and video recordings by performing musicians is a common practice in the field. However, previous studies have identified a gap in performer's understanding of long term preservation of recordings and future findability of these recordings. The library has traditionally housed professional and archival recordings, but has not been an active participant in the activity of sharing personal recordings. However, if viewing recordings as data, the library should become more active in supporting sharing of data by faculty researchers. This survey demonstrated use of popular social media platforms by musicians as a means to share their recordings. The popularity of Facebook and YouTube suggest that musicians may not be aware of complex issues surrounding preservation, archiving and licensing of content on these sites. The authors believe that helping musicians understand these issues can help add value to these data and fits will within a data curation program. In addition, we believe it is important that libraries support curating, archiving and preserving these data on platforms that meet the needs of

researchers' current and long-term scholarly activities.   Few other studies address this topic, and further

research is needed in order to understand motivations of sharing recordings, as well as identifying gaps

in knowledge in researchers participating in these activities. Further research topics might also address

the use of institutional repositories and perceived shortcomings by musicians, as well as opportunities

to address these shortcomings.

1. Do you consider yourself a performing artist? (yes, no)

2. What is your primary instrument?

3. How many years have you been playing your primary instrument?

4. What style of music do you primarily play?

5. What year were you born?

6. How do you identify? (male, female)

7. Are you a faculty member at a college/university/conservatory, etc?

8. On average, how many hours a week do you spend rehearsing

9. On average, how many hours a week do you spend teaching students to play their instrument?

10. On average, how many hours a week do you spend performing?

11. Do you teach private lessons in a college/university/conservatory setting? (yes, no)

12. Do you teach private lessons outside of a college/university/conservatory? (yes, no)

13. The experience of listening to a live versus a recorded performance are understood to be

    different. Please select the differences that you feel are most significant (check all that apply).

    Venue acoustics, Audience participation/feedback, Improvisation, Dynamics, Volume, Other

14. How often are your performances recorded (every, most, some, no performance)

15. How are your performances recorded (check all that apply)?

    a. Recording engineer and equipment provided by venue

    b. Recording engineer using your personal equipment

    c. Self-placed professional-grade personal equipment

    d. Non-professional equipment (laptop, tablet, cell phone, voice recorder, video recorder,

        etc.)

      e. Don't know

      f. Other

16. How often do you make recordings of your performances available to others (students, friends,

    family etc.)?

      Every performance, Most performances, Some performances, No performances

17. Which of the following tools do you use to share your performances? (check all that apply)

      CDs, DVDs, Soundcloud, YouTube, Vimeo, Facebook, Twitter, Instagram, Snapchat,

      Pandora, Apple Music, Vine, Bandcamp, NetLables, Internet Archive, Personal website,

      University/college department website, University/College library services, Institutional

      repository, Other(s)

18. Of the tools you DID NOT select avoe, which are you most interested in learning more about?

    (check all that apply)

      CDs, DVDs, Soundcloud, YouTube, Vimeo, Facebook, Twitter, Instagram, Snapchat,

      Pandora, Apple Music, Vine, Bandcamp, NetLables, Internet Archive, Personal website,

      University/college department website, University/College library services, Institutional

      repository, Other(s)

19. Do you ever make notes about your performances/recordings? (yes, no)

20. How do you make notes or annotations? (check all that apply)

      On the score, Independent of the score, Software annotation, Internet/Online tool,

      Other

21. Do you ever make notes about others' performances/recordings? (yes, no)

22. Please describe how you use your notes.

23. How do you point out a specific passage, event, or phrase in a recording with working with

    students?

You are being shown the three questions below because you identified as a faculty member at a college/university/conservatory, etc.

24. To what extent do the activities above (sharing and notes) count as scholarly activities?

25. In your opinion, how does academia value artistic output in relation to traditional scholarly publications?

26. How can academia better recognize scholarly activities in the performing arts?

Appendix 2: Terms of Use for major social media platforms

YouTube: "For clarity, you retain all of your ownership rights in your Content. However, by submitting Content to YouTube, you hereby grant YouTube a worldwide, non-exclusive, royalty-free, sublicenseable and transferable license to use, reproduce, distribute, prepare derivative works of, display, and perform the Content in connection with the Service and YouTube's (and its successors' and affiliates') business, including without limitation for promoting and redistributing part or all of the Service (and derivative works thereof) in any media formats and through any media channels. You also hereby grant each user of the Service a non-exclusive license to access your Content through the Service, and to use, reproduce, distribute, display and perform such Content as permitted through the functionality of the Service and under these Terms of Service. The above licenses granted by you in video Content you submit to the Service terminate within a commercially reasonable time after you remove or delete your videos from the Service. You understand and agree, however, that YouTube may retain, but not display, distribute, or perform, server copies of your videos that have been removed or deleted. The above licenses granted by you in user comments you submit are perpetual and irrevocable."[50]

"SoundCloud does not claim any ownership rights in Your Content, and you hereby expressly acknowledge and agree that Your Content remains your sole responsibility."[51]

Facebook: "you grant us a non-exclusive, transferable, sub-licensable, royalty-free, worldwide license to use any IP content that you post on or in connection with Facebook (IP License). This IP License ends when you delete your IP content or your account unless your content has been shared with others, and they have not deleted it."[52]

Internet Archive: "Please select a Creative Commons License during upload so that others will know

what they may (or may not) do with with your audio."[53]

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